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10/507,018	03/21/2005	Jonas Ove Philip Eliasson	36731-000039/US	7708
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EXAMINER				
LEIBY, CHRISTOPHER E				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/507,018

Applicant(s)

ELIASSON ET AL.

Examiner

CHRISTOPHER E. LEIBY

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61-64, 70, 72-74, 76-97, 103, 105-107 and 109-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61-64, 70, 72-74, 76-97, 103, 105-107, and 109-120 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

1. **Claims 61-64, 70, 72-74, 76-97, 103, 105-107, and 109-120** are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 61-64, 70, 72-74, 76-97, 103, 105-107, and 109-120** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ogawa et al.** (US Patent 5,502,568), herein after referred to as Ogawa, in view of **Shiratsuki et al.** (US Patent Application Publication 2001/0005004) herein after referred to as Shiratsuki and further in view of **Schiller et al.** (US Patent 6,577,299) herein after referred to as Schiller.

Regarding **independent claims 61 and 94** Ogawa discloses a touch pad (*abstract reference optical position detecting unit*) having: a light transmissive element (*Figure 3 21*) having a first surface adapted to receive light (*figure 3 reference 21*), a first (*figure 3 reference 22*) and a second (*figure 3 reference 23*) means adapted to receive light received by the surface, and for outputting corresponding signals (*Column 7, lines 60-61*), the first and second receiving means comprising two detectors (*figure 3 reference 22 and 23*) for detecting light wherein at least one detector receives light at least two different areas or points (*figure 4 reference 23*

receiving light at a top portion and bottom portions), and means for determining, on the basis of signals from the receiving means, a position of the first surface having received light (*Columns 7-8, lines 60-67, 1-17, Figures 3 and 4*), wherein the at least one detector is adapted to determine an angle of incidence of detected light at each area or point (*column 9 lines 1-47 reference angle QOZ or theta*), each at least one detector being an at least one-dimensional detector having a number of detecting points or areas and being positioned so that light from two different points on the first surface are detected at different points/areas of at least one of the detectors (*figures 3 and 4 is a linear CCD sensor*).

Ogawa does not specifically disclose wherein the light transmissive element is adapted to transmit received light inside of the light transmissive element along the first surface nor that two CCD sensors are used for triangulation.

However, Shiratsuki does disclose the use of a wave-guide plate/ light guide surface with a CCD beneath the surface enabled to receive the light inside of the light guide layer (*figure 5, wherein 2 is the wave guide, 4 is the CCD, and L1 would be the light pen of Ogawa*).

Also, Schiller discloses the use of two CCD sensors for triangulation Along a surface (*figure 16*).

It would have been obvious to one skilled in the art at the time of the invention to make Shiratsuki's CCD sensor into two CCD sensors as described by Schiller as a design preference and to replace the pattern plate of Ogawa's

first surface with the light transmissive element and integrated CCD of Shiratsuki in order to increase the precision detected by the CCD from the light pen's output.

Regarding **claims 62 and 95** Ogawa discloses a touch pad further comprising a display or monitor, the monitor or display being positioned so as to provide or display information through the first surface of the light transmissive element (*Column 3 and 5, lines 52-57 and 37-65 respectively*).

Regarding **claims 63 and 96** Ogawa discloses a touch pad, wherein the light transmissive element comprises an at least substantially flat light transmissive member having at a surface thereof a light transmissive coating or layer, an upper surface of which forms the first surface of the light transmissive element (*Figure 3 21*).

Regarding **claims 64 and 97** Ogawa discloses a touch pad, wherein the light transmissive element comprises a light transmissive display or monitor (*Column 3 and 5, lines 52-57 and 37-65 respectively*).

Regarding **claim 70 and 103** Shiratsuki discloses an element having a first side having a number of first predetermined positions for engagement of a user and a second side having a number of second positions or areas corresponding to the first positions, the element being adapted to, when a first position is engaged by the user, emit light from the corresponding second position, the second side being positioned so that the light emitted may be received by the first surface (*The original use of the wave guide was to direct light L1 from*

figure 5 to whatever pattern blocked the light as a type of scanner. This would enable a first position engaged by a user 2b and a second position corresponding to the first position 2a that would light up L1 to capture an image over top of area 2b, paragraphs [0052 and 0053]).

Regarding **claims 72 and 105** Ogawa, Schiller, and Shiratsuki disclose a touch pad wherein the receiving means comprise at least one detector and, for each area or point, a reflecting means (light receiving element) or lens means for directing the light received at the area or point on to detectors (*Ogawa: Column 14, lines 5-41*).

Regarding **claims 73 and 106** Ogawa discloses a touch pad wherein the receiving means comprise means for detecting light emitted at a predetermined point of the first surface in two different directions and means for determining the position of the predetermined point from the directions in which the light was detected (*Column 13, lines 15-67, figure 3*).

Regarding **claims 74 and 107** Ogawa, Schiller, and Shiratsuki discloses a touch pad according to claim 63, wherein the detecting means comprise reflecting means (light receiving element) or lens means for directing the light emitted in the two different directions on to the detectors (*Column 14, lines 5-41*).

Regarding **claims 76 and 109** Ogawa discloses a touch pad further comprising a plurality of slots or apertures provided between the predetermined point at the first surface and the one-dimensional detectors, the detecting points/areas of the one-dimensional detectors being at least substantially equidistant, and a distance between two adjacent slots being different from a

multiple of a distance between two adjacent areas/points of a detector (*Columns 2-3, lines 66-67 and 1-7 respectively*).

Regarding **claim 77** Ogawa discloses a touch pad according to claim 61, wherein detectors comprise a CCD detector (*Column 4, lines 26-30*).

Regarding **claims 78 and 110** Ogawa discloses a touch pad according wherein the CCD detector is a two-dimensional detector having a number of rows of detecting points/areas, and wherein each receiving means comprises at least one row of the CCD and detects light transmitted through the transmissive means by one or more rows of the detecting points/elements (*Column 14, lines 5-54*).

Regarding **claims 79 and 111** Ogawa discloses a touch pad further comprising means for directing light from surroundings of the touch pad to one or more other rows of the CCD (*Column 14, lines 5-54*).

Regarding **claims 80 and 112** Ogawa discloses a touch pad wherein a filter means or the reflecting/lens means is adapted to transmit at least substantially only light within a predetermined wavelength interval (*Figure 3 reference 24*).

Regarding **claims 81 and 113** Ogawa discloses a touch pad further comprising a stylus or pen adapted to emit light from a point thereof, the stylus or pen being adapted to transmit light into the light transmissive element when touching and/or being translated over the first surface (*Column 5, lines 54-65, Figure 2*).

Regarding **claims 82 and 114** Ogawa discloses a touch pad further comprising means for receiving light from outside the pad (*image pickup unit*) and in a plane at least substantially parallel to the first surface (*Figure 1*) and for transporting the light into the light transmissive means (*light path*), the determining element being adapted to determine a position outside the pad from which the light is emitted (*Column 2, lines 34-65*).

Regarding **claims 83 and 115** Ogawa and Shiratsuki discloses a touch pad wherein the receiving means comprise at least two lens means or mirror means positioned so as to direct light from the outside of the pad along the plane into the light transmissive element (Shiratsuki: figure 5 reference 2d).

Regarding **claims 84 and 116** Shiratsuki discloses a touch pad wherein the at least two lens or mirror means form part of the light transmissive means as a single element (*figure 5 reference 2d with 2*).

Regarding **claims 85 and 117** Shiratsuki discloses a touch pad further comprising means for directing light transported into the light transmissive element by the transporting means to the determining means (*paragraph [0051]*).

Regarding **claims 86 and 93** Ogawa and Schiller discloses a touch pad further comprising a stylus or pen having: a first light transmitting channel along a predetermined axis of the stylus or pen (*18*), means for providing light into and along the transmitting channel (*15*), means for outputting the light from the transmitting channel (*3*), a receiving channel being adapted to receive light output from the transmitting channel and having been reflected outside the pen

or stylus (*Schiller: figure 10A-10D*), and means for directing light from the receiving channel toward the receiving means of the pad (*Figure 2 reference 3*).

It would have been obvious to one skilled in the art at the time of the invention to use combine Schiller's infrared return signal with Ogawa's pen to confirm that the pen's output signal has been confirmed as disclosed by Schiller (*reference description of figure 10A*)

Regarding **claim 87** Ogawa discloses a stylus for use in the touch pad, the stylus having a light providing means and means for emitting light provided from a point of the stylus (*Column 5, lines 54-65, Figure 2*).

Regarding **claim 88** Ogawa discloses a stylus wherein the point of the stylus is flexible (*Figure 2 reference 11*).

Regarding **claim 89** Ogawa discloses a stylus wherein the light providing means is a light emitter (*Figure 2 reference 19*).

Regarding **claim 90** Ogawa discloses a stylus wherein the light providing means comprises means for receiving light from one or more surrounding light emitter(s) (*Figure 2 reference 20*).

Regarding **claim 91** Ogawa discloses a stylus further having means for varying an intensity and/or wavelength of the light emitted, the variation being controlled by a controlling means controllable by a user (*Figure 2 reference 17*).

Regarding **claims 92 and 119** Ogawa discloses a stylus wherein the controlling means comprises an area of the stylus, the area being adapted to be exposed to pressure or depression by the user, exposure to pressure or

depression will make the controlling means vary the intensity and/or wavelength (Figure 2 reference 17) and wherein the determining step comprises detecting the variation (Column 7, lines 26-39).

Regarding **claim 118** Ogawa discloses a method comprising translating a stylus or pen having: a first light transmitting channel along a predetermined axis of the stylus or pen (18), means for providing light into and along the transmitting channel (20), means for outputting the light from the transmitting channel (3), a receiving channel being adapted to receive light output from the transmitting channel and having been reflected outside the pen or stylus (18), and means for directing light from the receiving channel (3) (Figure 2) toward the receiving means of the pad over a surface having areas of varying light reflection, the light or stylus directing light of varying intensity toward the touch pad, wherein the determining step comprises determining information from the variation in the light intensity (Column 7, lines 18-25).

Regarding **claim 120** Ogawa discloses a method wherein the varying step comprises the user depressing an area of the stylus, the depression facilitating the variation of the intensity and/or wavelength (Figure 2 reference 17 and 14).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lowry et al. (US Patent Application Publication) discloses using optical fibers (*figure 1A reference 120*) about the surface (*115*) to transmit output (*160*) from a light pen (*150*) to CCD sensors (*145*) to a controller (*105*) for display (*135, 130, and 110*).

Gettemy (US Patent 7,006,080) discloses a display system with a light transmissive member capable of transmitting light along the surface (*figure 2*).

Sayag (US Patent 6,166,370) discloses a display system with a light transmissive member capable of transmitting light along the surface (*figure 11*).

Kuth et al. (US Patent 5,726,685) discloses an input system using a light pen and two detectors below the surface of a transparent plate (*figure 1*).

Response to Arguments

5. Applicant's arguments filed 2/19/2008 have been considered but are moot in view of the new ground(s) of rejection. Further, all claim objections and 112 rejections have been removed.

Shiratsuki is used merely to show light transmissive elements which are capable of transmitting light along the surface to light detecting sensors. Please reference other pertinent art not of record under the conclusion of this office action for more light transmissive elements capable of transmitting light along the surface as these have been known for quite some time since one skilled in the art at the time of the invention (and before) knew that particular transmissive elements have different index's of refraction allowing different angles of incidence

when a light is transmitted into a transmissive element. Finding a particular index of refraction for a particular frequency of light would allow one skilled in the art to transmit projected light into a surface and travel inside of that transmissive element along that surface.

Further more, besides using Shiratsuki as an example of a light transmissive element capable of allowing the light to travel inside and along the surface. One skilled in the art at the time of the invention would see Ogawa's pattern plate as an obvious substitution to application's transmissive member shown in claim 1 as both system's provide the same information to operate the touch pad with no benefit of one above the other except that of applicant's CCDs adapted to receive the light within the display itself (*rejected above in view of Shiratsuki*). However, the rejection stands as previously presented using Shiratsuki's Wave guide in place of Ogawa's pattern plate.

Accordingly this action is final necessitated by amendment.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Leiby whose telephone number is 571-270-3142. The examiner can normally be reached on 8-4 m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alex Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CL

June 6th, 2008

/Alexander Eisen/

Supervisory Patent Examiner, Art Unit 2629